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AMENDMENTS TO THE CLAIMS

1. (Original) A method comprising:

defining a pattern to be formed on a textile material, which pattern represents different degrees of change of said textile material at different locations, said different degrees of change including at least a plurality of different levels of change; and

producing a viewable display representing said pattern.

2. (Original) A method as in claim 1 wherein said pattern includes effective applied power density information which enables said change to be carried out with a laser.

3. (Original) A method as in claim 2 wherein said applied power density levels are individually associated with different portions of said pattern, and include information which changes an energy density per unit time applied by the laser.

4. (Original) A method as in claim 1 further comprising using a laser to scan lines defining said pattern onto a garment, by controlling said laser according to said pattern to apply energy across different lines which are produced across the pattern, at least one of said lines including plurality of different effective applied energy on a single line.

5. (Original) A method as in claim 1 wherein said viewable display includes a plurality of different sections, and further comprising accepting commands on

a user interface that enable each of said sections to be s parately controllable on said viewable display, to produce a different degree of viewed change on said viewable display.

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6. (Original) A method as in claim 5 further comprising converting said sections to scan lines in a desired direction, and using a laser to produce a desired effective applied energy based on said pattern, to produce a desired output along said scan lines, at least one of said scan lines having a different effective applied energy at a central portion as compared with at either end portion thereof.

7. (Original) A method as in claim 6 wherein said scan line is a horizontal scan line.

8. (Original) A method as in claim 6 wherein said scan line is a vertical scan line or any angled scan line.

9. (Original) A method as in claim 6 wherein said using a laser comprises changing an effective power output of the laser while scanning a line.

10. (Original) A method as in claim 9 wherein said changing effective power comprises control of the power level via duty cycle control.

11. (Original) A method as in claim 10 wherein said duty cycle control turns on and off the laser at a specifi d rate in a pulsed manner.

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12. (Original) A method as in claim 10 wherein said duty cycle controls blocks and unblocks the output of the laser at a specified rate.

13. (Original) A method as in claim 9 wherein said changing comprises changing a spot size of the beam.

14. (Original) A method as in claim 1 wherein said defining comprises examining an existing garment to determine a pattern of abrasion, and forming said pattern based on said examining.

15. (Original) A method as in claim 14 wherein said forming comprises automatically forming said pattern.

16. (Original) A method as in claim 14 wherein said examining comprises using a scanner to determine color contents of a section of material, and automatically translating said color contents into an a value indicative of effective applied energy.

17. (Original) A method as in claim 16 wherein said translating comprises using a look up table to change said color contents into said value indicative of effective applied energy.

18. (Original) A method as in claim 1 further comprising using said pattern to control a laser having a total power of 500 watts or greater; and using said laser to form said pattern on a garment.

19. (Original) A method as in claim 1 further comprising using said pattern to control a laser having a total power of 1000 watts or greater; and using said laser to form said pattern on a garment.

20. (Original) A method as in claim 4 wherein said power of the laser changes by a factor of at least 25% during a single scan line of said laser.

21. (Original) A method as in claim 4 wherein said effective applied energy changes by at least 25% during a single scan line of said laser.

22. (Original) A method as in claim 1 wherein said defining comprises determining a desired shape for a pattern portion, and painting color contents on said shape being displayed.

23. (Original) A method as in claim 22 wherein said color contents represent a degree of abrasion to a specified area on said garment.

24. (Original) A method as in claim 22 further comprising defining a plurality of parameters to be associated with a portion of said pattern, and defining a section between any two parameters, each said section being separat ly changeable.

25. (Original) A method as in claim 1 further comprising defining effects for portions of the pattern.

26. (Original) A method as in claim 25 wherein said effect is a blend function which computes an average color for pixels based on colors of a pixel and colors of a neighboring pixel.

27. (Original) A method as in claim 1 wherein said pattern is a pattern of a whisker pattern.

28. (Original) A method as in claim 25 wherein said effect is a grain look which allows different colors to have different votes.

29. (Original) A method as in claim 25 wherein said effect is a spray look.

30. (Original) A method as in claim 1 wherein said pattern is a pattern is a pattern on a garment, only on a specified portion of the garment, in a location from below the waist to below the knee on the garment.

31. (Original) A method as in claim 1 wherein said pattern is the pattern of a worn seat look on a garment.

32. (Original) A method as in claim 1 wherein said pattern is oval shaped with a plurality of concentric portions.

33. (Currently Amended) A method as in claim 1 wherein said pattern includes a pattern of frayed areas in which actual holes or exposed fibers will be formed by a laser scribing using ~~said specified~~ parameters based on said different levels of change.

34. (Original) A method as in claim 1 further comprising forming a plurality of power levels for a plurality of scan lines to form said pattern, each said power levels represented by a percent of a maximum power that can be applied.

35. (Original) A method as in claim 34 wherein at least one of said scan lines includes an overshoot protection.

36. (Currently Amended) A method as in claim 35 wherein said overshoot protection includes, at an area outside the desired area of changing the image, which is set to a specified effective applied power level which is low enough to prevent change to a material to which ~~the laser is~~ said scan lines are being applied, and application of the specified effective applied power level until reaching an area of desired change, and increasing the power at said area of desired change to a level at which change to the material will be formed.

37. (Original) A method as in claim 1 further comprising defining an orientation of a weave line of the material as part of said display.

38. (Original) A method as in claim 1 further comprising passing a garment along a conveyer; and using a laser to lase an effect thereon based on information in said pattern.

39. (Original) A method as in claim 38 further comprising lasing a first pattern on a first side of the material on the conveyer, automatically changing the material to a expose a second side to a laser and then automatically lasing another pattern, different than the first pattern, on the second side of the material.

40. (Currently Amended) A method as in claim 34 wherein at least a portion of said scan line ~~the lasing~~ is carried out at a level of effective applied power which does not undesirably damage the material.

41. (Original) A method comprising:

storing information about effective applied power levels for a plurality of scan lines of a laser element, at least a plurality of said scan lines having levels of effective applied power which change within a single scan line; and

using a laser to process ~~the~~ a material by controlling scan lines of the laser to have a controlled energy density per unit time which depends on said effective applied power levels.

42. (Currently Amended) A method as in claim 41 wherein at least a plurality of said effective applied power levels are values which do not undesirably damage [[the]] a material.

43. (Original) A method as in claim 42 wherein at least a plurality of said effective applied power levels are values which intentionally cause a hole in the material to cause fraying.

44. (Currently Amended) A method as in claim 41 wherein said [[file]] information is indicative of a simulated abrasion effect to create a worn look.

45. (Original) A method as in claim 41 wherein said information is indicative of simulated whisker effect.

46. (Original) A method as in claim 41 wherein at least part of said information is indicative of a simulated fraying effect.

47. (Currently Amended) A method as in claim [[41]] 42 wherein said ~~garment~~ material is a denim garment.

48. (Original) A method as in claim 41 wherein said laser has an output power of 500 watts or greater.

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49. (Original) A method as in claim 41 wherein said laser is one which has an output power of 1000 watts or greater.

50. (Currently Amended) A method as in claim 41 wherein said ~~pattern is~~ information represents an oval shaped pattern.

51. (Original) A method as in claim 41 wherein said control of effective applied power levels is carried out by control of duty cycle of said laser thereby controlling an effect of amount of power delivered by the laser in a pulsed manner.

52. (Original) A method as in claim 51 wherein said control of duty cycle comprises turning a laser on and off at specified rate.

53. (Original) A method as in claim 52 wherein said specified rate is fast relative to the movement of the laser.

54. (Original) A method as in claim 51 wherein said control of duty cycle comprises selectively blocking and unblocking an output of the laser to thereby control an effective amount of power delivered by the laser.

55. (Original) A method as in claim 41 further comprising changing the EDPUT by changing a speed of movement of the laser.

56. (Original) A method as in claim 41 wherein said change of effective applied power levels comprises changing an output size of a laser beam that is output from the laser.

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57. (Original) A method as in claim 41 further comprising feathering an edge of the pattern by changing a power level of the image at said edge to form a more gradual change of effect at said edge.

58. (Original) A method as in claim 41, wherein said information is in a specified format, which includes an indication of an area and an indication of an effective applied power level to be applied to said area.

59. (Original) An apparatus, comprising:

a computer controlled laser, having an output which impinges on a surface to be modified by said laser and which is controlled according to a computer file, said computer controlled laser producing said output beam having a controlled effective applied power level of application to the area, according to said computer file, wherein said computer file includes at least a plurality of scan lines in which said effective applied power level changes within a single scan line at least three times to at least three different values.

60. (Original) An apparatus as in claim 59 wherein said laser has a power output of 500 watts or greater.

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61. (Original) An apparatus as in claim 59 wh rein said laser has a power output of 1000 watts or greater.

62. (Original) An apparatus as in claim 59 wherein said effective applied power level is selected for a specific textile material to be lazed, and at least one of said effective applied power levels in said computer file changes the look of the textile material without undesirably burning, punching through or otherwise harming the textile material.

63. (Original) An apparatus as in claim 62 where at least one of the effective applied power levels in said computer file does cause burn through of the material to expose fibers in the material.

64. (Original) An apparatus as in claim 62 further comprising an in-line shampooing element, which provides a shampooing operation and a shampoo removal operation to a garment which has been lased by the laser.

65. (Original) An apparatus as in claim 59 wherein an effective applied power level of the laser is changed by turning on and off the laser at a specified duty cycle.

66. (Original) An apparatus as in claim 59 further comprising an adjustable shutter which modulates an output of the laser, and a control element which turns on

and off said shutter, based on said computer file, to adjust said ffective applied power level.

67. (Original) An apparatus as in claim 66 wherein said shutter is a piezoelectric element.

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68. (Original) An apparatus as in claim 66 wherein said shutter is a mechanical shutter.

69. (Original) An apparatus as in claim 59 wherein said effective applied power level changes to at least five different values in at least a plurality of scan lines of said laser.

70. (Original) An apparatus as in claim 59 wherein said effective applied power level changes between a lowest value and a highest value, wherein said highest value is at least 125% of said lowest value.

71. (Original) An apparatus as in claim 59 wherein said effective applied power level changes between a lowest value and a highest value, wherein said highest value is at least twice said lowest value.

72. (Currently Amended) An apparatus as in claim 59 wherein said file represents a pattern which includes a feathering portion at an edge of the pattern where

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a change in effective applied power level is made gradual to gradually change an effect thereof.

73. (Original) An apparatus as in claim 59 further comprising a control console, having a user interface, said user interface graphically showing a pattern which is to be lased, said pattern including differently highlighted areas for different effective applied power levels.

74. (Original) An apparatus as in claim 73 wherein said differently highlighted areas comprise different colors.

75. (Original) An apparatus as in claim 59, wherein said computer file includes a plurality of information parts, each information part associated with a specific area on an image representing a garment to be altered, and each information part including information indicating effective applied power level information for a laser.

76. (Original) An apparatus as in claim 73 wherein said differently highlighted areas comprise different gray scales.

77. (Original) An apparatus as in claim 74 further comprising a look up table which stores a relationship between an effect to a material, and a duty cycle of operation of the laser to provide said effect.

78. (Original) An apparatus as in claim 74 further comprising an editing tool which enables editing said pattern.

79. (Currently Amended) An apparatus as in claim 59 wherein said ~~memory~~ file stores a pattern of a simulated worn pattern.

80. (Currently Amended) An apparatus as in claim 59 wherein said file represents a pattern which stores a simulated whisker pattern.

81. (Currently Amended) An apparatus as in claim 59 wherein said file represents a pattern which stores a pattern with a hole through the denim of a type which exposes fibers of the denim.

82. (Original) An apparatus comprising:

a controllable laser, which is controllable by a computer file, to produce an output on a desired area, said laser having a maximum output power which is 500 watts or greater; and

said computer file storing control information which adjusts a duty cycle of an output of said laser to control an effective applied energy applied to said area to a desired amount and providing said information for a desired energy density per unit time to said controllable laser for said area.

83. (Original) An apparatus as in claim 82 wherein said laser is controlled to scan in lines, and wherein a plurality of said lines have different effective applied area at one area than in another area.

84. (Original) An apparatus as in claim 83 wherein said effective applied energy changes to at least three different values within a single scan line.

85. (Original) An apparatus as in claim 82 wherein at least some of said effective applied energies is set to a specific value relative to a material in said area, which changes the abrasion or color of said material without undesirably damaging the material.

86. (Original) An apparatus as in claim 82 where at least part of said effective applied energies provides a desired punch through effect in said material.

87. (Currently Amended) An apparatus as in claim 82 further comprising a terminal, which provides an image of [[the]] a simulated pattern to be applied to the material, said image having differently indiciaed areas to represent different effective applied energies.

88. (Original) An apparatus as in claim 87 wherein said indiciaed areas comprise differently colored areas.

89. (Original) An apparatus as in claim 87 wherein said indiciaed areas comprise different grayscales.

90. (Original) An apparatus as in claim 82 further comprising a duty cycle controller comprising and on off control for the laser.

91. (Original) An apparatus as in claim 82 further comprising a duty cycle controller comprising a shutter, selectively opened and closed at an output of the laser.

92. (Currently Amended) An apparatus as in claim 87 wherein the ~~stored~~ simulated pattern has a plurality of concentric oval areas.

93. (Original) A method of processing a garment, comprising:

obtaining a first garment which has a desired look to be replicated;

using an electronic device to capture color levels of different areas of said first garment;

automatically determining, from said color levels, an amount of effective applied energy of laser energy which will need to be applied to said each of said area to replicate said color level; and

forming a computer file representing said amount of laser power which needs to be applied to each of said areas to replicate said different areas of said first garment.

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94. (Original) A method as in claim 93 further comprising using said computer file to control a laser to mark a second garment in a way that replicates a pattern of the colors on the first garment.

95. (Original) A method as in claim 94 wherein said laser marks said second garment by scribing a plurality of lines on said second garment using said computer file.

96. (Original) An apparatus as in claim 95 wherein at least a plurality of said lines define an effective applied energy which varies within each of a plurality of single scanned lines.

97. (Original) An apparatus as in claim 96 wherein said effective applied energy varies to at least three different values within said plurality of lines.

98. (Currently Amended) A method as in claim 94 wherein said ~~translating~~ forming comprises using a look up table which stores a correspondence between a specified color and a specified effective applied energy, to determine said amount of laser power ~~levels~~.

99. (Original) A method as in claim 94 further comprising storing information in a look up table, and using said information to determine said effective applied energy for each of said areas.

100. (Original) A method as in claim 94 wherein said using a laser comprises adjusting said effective applied energy by adjusting a duty cycle of an output of said laser at a speed which is fast relative to a speed of movement of said laser, and in a way which adjusts an effective power output of said laser within a single scan line.

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101. (Original) A method as in claim 100 wherein said duty cycle control comprises turning the laser on and off at a specified rate.

102. (Original) A method as in claim 100 wherein said duty cycle control comprises selectively blocking and unblocking an output of the laser.

103. (Original) A method as in claim in 94 wherein said laser has an output power of 500 watts or greater.

104. (Original) A method as in claim 93 further comprising displaying a graphical image indicative of said computer file to a user and allowing said user to edit said graphical image to thereby edit said computer file.

105. (Original) A method as in claim 104 wherein different areas of said computer file have different indicia indicative of different amounts of power to be applied to said area.

106. (Original) A method as in claim 95 further comprising allowing setting a direction of line scribing by said laser.

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107. (Currently Amended) A method comprising:

determining information indicative of a desired abrasion pattern to be formed on a garment;

storing, in a memory, a relationship between each of a plurality of desired areas of abrasion and an effective applied power to be used with a specified laser to create said ~~level of~~ abrasion pattern;

accessing said relationship, using said information indicative of said desired abrasion pattern, to determine said effective applied power; and

forming a computer file using said effective applied power and said desired pattern, said computer file including an indication of an area, and an indication of information which will cause said specified laser to apply said effective applied power in said area.

108. A method as in claim 107 wherein said effective applied power is an indication of a duty cycle of an output of said laser.

109. (Original) A method as in claim 107 further comprising displaying a graphical representation of said computer file to a user, where different indicias in different areas of said image represent different amounts of abrasion; and enabling said user to edit said graphical representation.

110. (Original) A method as in claim 109 wherein said indicias comprise different colors, each color associated with a specified power level and associated with a specified degree of abrasion.

111. (Original) A method as in claim 107 further comprising using a laser to apply said desired effective applied power level to a desired garment.

112. (Original) A method as in claim 111 wherein said using comprises defining lines that the laser will follow in scanning the image, and wherein at least a plurality of said lines have a varying effective applied power within the specified line.

113. (Original) A method as in claim 112 wherein at least a plurality of the lines have an effective applied power that varies at least three values within the scanning of the line.

114. (Original) A method as in claim 112 wherein said using comprises adjusting a duty cycle of the laser to change an amount of effective applied power that is applied.

115. (Original) A method, comprising:

defining a desired pattern of color alterations to be formed to a garment by selecting a plurality of areas on a display, defining a color that is associated with each of a plurality of abrasion levels, selecting a color to associate with each of the plurality of areas to thereby associate a lev l of abrasion with ach of the plurality of areas; and

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storing a computer file indicative of said selecting.

116. (Original) A method as in claim 115 further comprising enabling said display to be edited, to change color and or shape.

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117. (Original) A method as in claim 116 wherein said computer file specifies information for use in forming control data for a laser to scribe lines on a desired garment, wherein at least a plurality of said lines specify an energy density per unit time which changes within a single scan line.

118. (Original) A method as in claim 117 wherein at least a plurality of lines have an energy density per unit time which has at least three values within the specified line.

119. (Original) A method as in claim 118 wherein a highest of said three values is at least 1.25 times as high as a lowest of said three values.

120. (Original) A method as in claim 116 wherein said editing comprises applying an abrasion using a spray tool.

121. (Original) A method as in claim 116 wherein said editing comprises decreasing a resolution of said image.

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122. (Original) A method as in claim 115 further comprising storing, in a memory, a relationship between each color and an amount of effective applied energy representing the color.

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123. (Currently Amended) A method as in claim 116 ~~wherein said~~ further comprising using a laser ~~comprises~~ and controlling the laser to control an effective applied power applied to an area by controlling a duty cycle of the laser.

124. (Original) A method as in claim 123 wherein said duty cycle is controlled by selectively blocking and unblocking an output of said laser.

125. (Original) A method as in claim 123 wherein said duty cycle is controlled by turning on and off the laser.

126. (Original) A method, comprising:

defining an image of a whisker part which represents an image of a color change to a material caused by creasing of the material; and

using a laser to simulate the look of said whisker part on the material.

127. (Original) A method as in claim 126 wherein said whisker part comprises a plurality of lines that represent the creases.

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128. (Original) A method as in claim 127 wherein each of the whiskers are between 1/8th of an inch and 2 inches in width and between one and ten inches in length.

129. (Original) A method as in claim 126 wherein each of the lines is a different color in the center then along the top, bottom and towards its edges.

130. (Currently Amended) A method as in claim 126 wherein said ~~forming~~ defining comprises allowing a user to form a desired view of the whisker on a user interface; and

converting the image on the user interface to a computer file used to control the laser.

131. (Original) A method as in claim 126 wherein said forming the whisker comprises using a laser having a maximum output power of 500 watts or greater to form a pattern.

132. (Original) A method as in claim 131 wherein said pattern is formed in a way which does not undesirably damage the material.

133. (Original) A method of processing a garment, comprising:

defining a desired pattern to be formed on the garment and producing a computer file indicative thereof;

using said computer file with a laser having a maximum output power of 500 watts or greater, to scribe the desired pattern on said garment; and

using said laser for thirty seconds or less to form said entire pattern.

134. (Original) A method as in claim 133 further comprising controlling an effective output power of said laser by controlling a duty cycle of operation thereof.

135. (Original) A method of forming a pattern on a garment comprising:

determining a pattern to be formed on a garment;

determining an effect that a directional characteristic of the material will have on the pattern to be formed; and

specifying both said pattern and said directional characteristic.

136. (Original) A method as in claim 135, wherein said specifying includes forming a computer file indicative of areas, and effective power output levels associated with each said area.

137. (Original) A method as in claim 136, further comprising using said computer file to control a controllable laser, to form an effect on a material.

138. (Original) A method of processing a garment, comprising:

obtaining a first garment which has a desired look to be replicated;

determining color levels of different areas of a plurality of different areas of said first garment;

determining, from said color levels, an amount of effective applied energy of laser energy which will need to be applied to said each of said area to replicate said color level; and

forming a computer file which has a plurality of area representations, each area representation associated with a power representation representing said amount of laser power which needs to be applied to each of said areas to replicate said different areas of said first garment.

139. (Original) A method as in claim 138 further comprising using said computer file to control a laser to mark a second garment in a way that replicates a pattern of the colors on the first garment.

140. (Currently Amended) A method as in claim [[138]] 139 wherein said laser marks said second garment by scribing a plurality of lines on said second garment using said computer file.

141. (Original) An apparatus as in claim 140 wherein at least a plurality of said lines define an effective applied energy which varies within each of a plurality of single scanned lines.

142. (Original) A method as in claim 138 further comprising storing information in a look up table, and using said information to determine said effective applied energy for each of said areas.

143. (Original) A method as in claim 138 further comprising displaying a graphical image indicative of said computer file to a user and allowing said user to edit said graphical image to thereby edit said computer file.

144. (Original) A method, comprising:

defining an image of a whisker part which represents an image of a color change to a material caused by creasing of the material; and

forming a computer file which indicates said whisker part, and which which represents at least a plurality of areas, and laser information for said areas, said laser information for said areas being information which will cause said laser to form a specified color change of material in said areas.

145. (Original) A method as in claim 144, further comprising applying said computer file to a laser to simulate the look of said whisker part on the material.

146. (Original) A method as in claim 144 wherein said whisker part comprises a plurality of lines that represent the creases, each of the lines are between 1/8th of an inch and 2 inches in width and between one and ten inches in length.

147. (Original) A method as in claim 144 wherein each of the lines is a different color in the center then along the top, bottom and towards its edges.

148. (Original) A method comprising:

defining a pattern to be formed on a textile material, which pattern represents different degrees of abrasion of said textile material at different locations, and which represents at least first areas which have no abrasion, and producing a computer readable file indicative of said pattern; and

controlling a laser to form said pattern by first controlling said laser according to said file to produce an effective output power in said first areas which is greater than zero, but is less than a threshold beyond which a visible change will be made to said textile material, and to increase the effective output power at a boundary between said first areas, and other areas outside said first areas.

149. (Original) A method comprising:

defining a pattern to be formed on a textile material, which pattern represents a plurality of sections, each section having a separately controllable amount of degree of change, said different degrees of change including at least a plurality of different levels of change;

randomizing a precise point at which the degree of change actually is bounded between two adjacent levels; and

forming a computer-readable file indicating said pattern and information about said degree of change, including the randomized boundary.

150. (Original) A method as in claim 149, wherein said degree of change information is information about an effective applied power level for a laser, and said file includes said information associated with location information.

151. (Original) A m thod as in claim 150, further comprising using a laser to apply said effective applied power levels at specified locations represented by said location information.

152. (Original) A method comprising:

defining a pattern to be formed on a textile material, which pattern has different colors representing different degrees of change of said textile material at different locations, said different degrees of change including at least a plurality of different levels of change, each different level of change associated with an effective applied energy to be applied to said location;

defining a tool which allows a spray of incremental intensity onto the pattern, by defining a droplet size and trajectory, determining a location that is hit by a droplet;

adjusting a color level of said location based on said hit so that said effective applied energy is adjusted by said hitting.

153. (Original) A method as in claim 152, wherein said colors are one of full colors or gray scales.

154. (Original) A method as in claim 152, wherein said locations are pixels.

155. (Original) A method as in claim 152, wherein said adjusting comprises incrementing a color level of said location to a next higher color level.

156. (Original) A method as in claim 152, wherein said effective applied energy is one of an energy density per unit time, a duty cycle of an output of a laser, a speed of movement of a laser, a distance of a laser or a number of passes of a laser.

157. (Original) A method as in claim 152, wherein said adjusting comprises incrementing a color level of said location to a next lower color level.

158. (Original) A method of providing a variable effect to a material, comprising:

changing an effective applied power from a laser to a material by making multiple passes of laser scans along specific segments of the pattern, each of said passes being carried out at constant power, speed and laser distance, but the combination of said multiple scans providing a varied effective applied power at said material.

159. (Original) A method as in claim 158, wherein said changing comprises defining a file having different levels of effective applied energy, and using said file to control a number of said passes which are carried out in each of a plurality of areas.

160. (Original) A method as in claim 159, wherein said areas are pixels.

161. (Original) A method as in claim 2, wherein said effective applied energy is one of an energy density per unit time, a duty cycle of an output of a laser, a speed of movement of a laser, or a distance of a laser.

162. (Original) A method as in claim 41, wherein said effective applied energy is one of an energy density per unit time, power level of a laser, a duty cycle of an output of a laser, a speed of movement of a laser, or a distance of a laser.

163. (Original) A method as in claim 93, wherein said effective applied energy is one of an energy density per unit time, power level of a laser, a duty cycle of an output of a laser, a speed of movement of a laser, or a distance of a laser.

164. (Original) A method as in claim 107, wherein said effective applied energy is one of an energy density per unit time, power level of a laser, a duty cycle of an output of a laser, a speed of movement of a laser, or a distance of a laser.

165. (Original) A method as in claim 150, wherein said effective applied energy is one of an energy density per unit time, power level of a laser, a duty cycle of an output of a laser, a speed of movement of a laser, or a distance of a laser.

166. (Original) An apparatus as in claim 59, wherein said effective applied energy is one of an energy density per unit time, power level of a laser, a duty cycle of an output of a laser, a speed of movement of a laser, or a distance of a laser.

167. (Original) An apparatus as in claim 82, wherein said effective applied energy is one of an energy density per unit time, power level of a laser, a duty cycle of an output of a laser, a speed of movement of a laser, or a distance of a laser.

168. (Original) A file format, comprising:

a representation of a matrix of values, each value representing an amount of effective applied power to be applied to each area defined by each element of the matrix.

169. (Original) A format as in claim 168, wherein each element of said matrix is bit-mapped.

170. (Original) A format as in claim 168, wherein each value represents at least one of power level, duty cycle and or energy density per unit time for each of said areas.

171. (Original) A format as in claim 168, wherein each said area is a pixel.

172. (Original) A format as in claim 168, wherein said format also includes a value from which a direction of scanning by a laser should be carried out.

173. (Original) A file format, comprising:

a representation of a matrix of values, each value representing an amount of power to be applied by a laser to each area defined by each element of the matrix; and

a control value for said laser, indicating a direction of laser scanning.

174. (Original) A format as in claim 173, wherein said direction is one of horizontal or vertical scanning.

175. (Original) A method comprising:

authoring a special image intended for use in changing the color of textile fabric, which has differently colored areas representing different levels of change of color to said textile fabric; and

using said image to form a file that controls a laser to carry out said changing of color of said textile fabric.

176. (Original) A method as in claim 175, wherein said file includes levels of effective applied energy associated with said levels of change of color.

177. (Original) A method as in claim 176, wherein said effective applied energy is one of an energy density per unit time, power level of a laser, a duty cycle of an output of a laser, a speed of movement of a laser, or a distance of a laser.

178. (Original) A method as in claim 175, wherein said file includes a separate effective applied energy value for each pixel of the image.

179. (Original) A file format, comprising:

a matrix of values, each value associated with an area and having a value which indicates an amount of lasing to be carried out by a laser, which matrix of values collectively forms information which can be used to use said laser to form a whisker on a material, said whisker r presenting a color change to a material caused by creasing of the material.

A